

# Work Order ID 62804

Friday, October 08, 2010 10:36:11 AM

Page 1

Item ID: D4072-5

Accept

Setup Start

Revision ID:

Stop

Item Name: Bushing

Start Date: 10/8/2010 Start Qty: 10.00

Cust Item ID:

Required Date: 10/15/2010 Req'd Qty: 10.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D4072

A

MATERIAL CERTIFICATION  
REQ'D UPON DELIVERY

100

0.00



Hardinge CNC LATHE SMALL

Hardinge

Memo

0.00

Hardinge CNC Lathe Small

1-Turn as per Dwg and Folio FA978

Dwg Rev:

Folio Rev:

2-Deburr

110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			



**NOTE:** Date & initial all entries




**Work Order ID 62804**

Friday, October 08, 2010 10:36:11 AM

Page 2

Item ID: D4072-5 Accept  Setup Start   
Revision ID:  
Item Name: Bushing Stop   
Start Date: 10/8/2010 Start Qty: 10.00  Cust Item ID:  
Required Date: 10/15/2010 Req'd Qty: 10.00  Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start   
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  QC Quality Control	QC8- Inspect parts - second check  Memo	0.00							
			Jord 10-10-29			10			
130  Packaging Packaging	Identify as per dwg & Stock Location: 121  Memo	0.00							
			10.10.29			10			
			10/11/01			10			
140  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00							
			10/11/01			10			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, October 08, 2010 10:36:14 AM

Page 1

Work Order ID: 62804

Parent Item: D4072-5

Parent Item Name: Bushing



Start Date: 10/8/2010

Required Date: 10/15/2010

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A NEW ISSUE 10-10-08 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M303R0.500 		Purchased	No			100	f	36.4000	0.03	0.315789			
303 Round Bar 0.500"													

*10-10-14*

Location

Loc Qty

Loc Code

MAT

34.4

114852

10.4

115593

24

MAT028

2

112567

2

*25*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

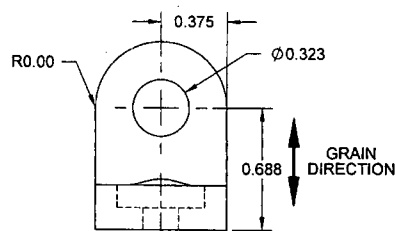
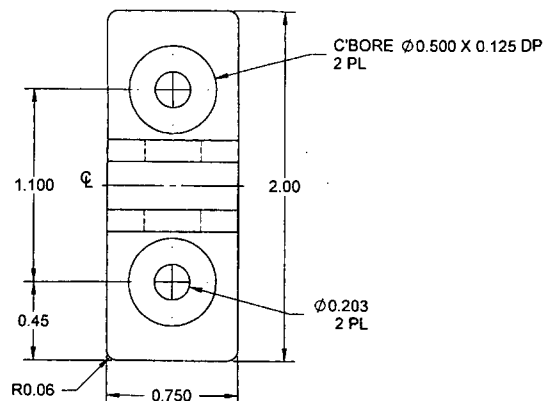
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

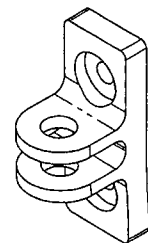
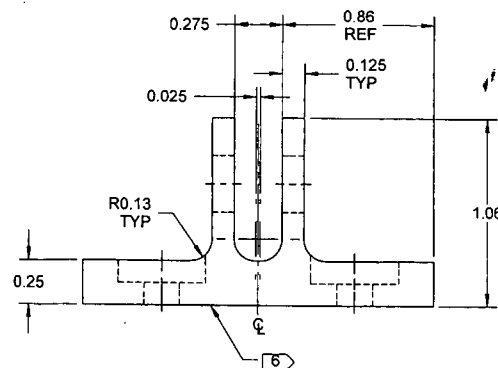
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





UNCOM  
SUBJ  
NO. 42809  
R1010-08



# D4072-1 AIRFRAME HINGE

RELEASED  
2010-09-22  
JM

## NOTES:

- 1) MATERIAL: 6061-T6/T651/T6511/T62 ALUMINUM BAR  
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMD 4117/4128/4115/4116)  
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
OR ASTM B211 OR ASTM B221  
REF DART SPEC M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 0.04 lbs

A NEW ISSUE		RF	10.09.16
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	RF		
CHECKED	RF		
MFG. APPR.	RF		
APPROVED	RF		
DE APPR.	RF		
DATE	10.09.16		

**DART AEROSPACE USA, INC.**  
PORT HADLOCK, WA

DRAWING NO. **D4072** REV. A  
SHEET 1 OF 3

TITLE **AIRFRAME HINGE** SCALE NTS

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**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

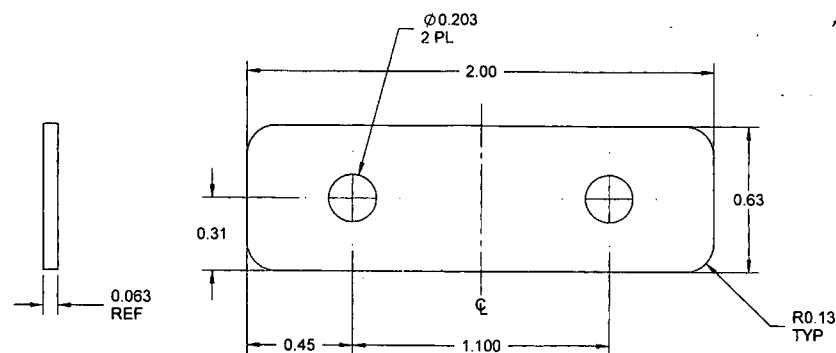
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

W/O 42804



**D4072-3 AIRFRAME HINGE BACKING PLATE**

**NOTES:**

- 1) MATERIAL: 6061-T6/T62 ALUMINUM SHEET, 0.063 THICK  
PER QQ-A-250/11 OR AMS-QQ-A-250/11  
OR AMS 4025 OR AMS 4027  
OR ASTM B209  
REF DART SPEC M6061T6S.063
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 0.01 lbs

**RELEASED**  
2010-09-23  
W/D

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	AP	D4072	SHEET 2 OF 3
APPROVED	AP	TITLE	SCALE
DE APPR.	RF	AIRFRAME HINGE	NTS
DATE	10.09.16	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

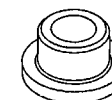
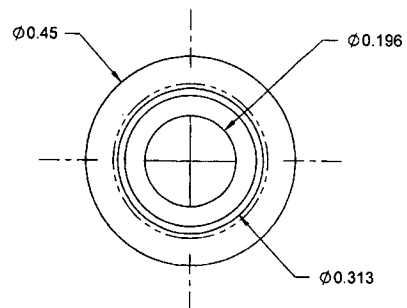
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

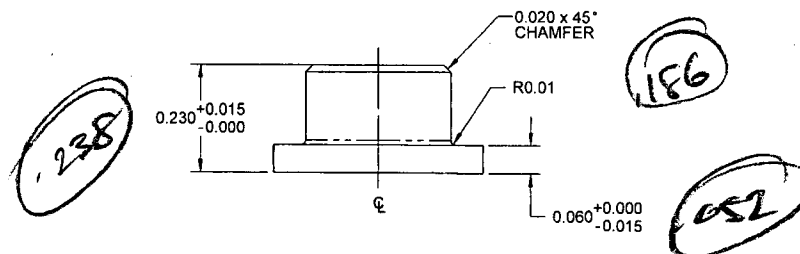
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



*WLO 62804*



**D4072-5 BUSHING**

**RELEASED**  
2010-09-23  
*WLO*

**NOTES:**

- 1) MATERIAL: AISI 303 STAINLESS STEEL BAR  
REF DART SPEC. M303B
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: PER QSI 044 6.1
- 7) WEIGHT: 0.004 lbs

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	<i>AP</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>AP</i>	<b>D4072</b>	SHEET 3 OF 3
APPROVED	<i>AP</i>	TITLE	SCALE
DE APPR.	<i>AP</i>	<b>AIRFRAME HINGE</b>	NTS
DATE	10.09.16	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Receiving Report

Date: 10/9/12

Batch No: 0115083

Supplier: MARMON

Dart P/O: 12488

Packing Slip: Yes ☒ No ☐  
 Invoice: Yes ☐ No ☒  
 Receipt: Cash ☐ Cr ☒

Release Note Attached: Yes ☒ No ☐ N/A ☐  
 Waybill Attached: Yes ☒ No ☐ N/A ☐  
 Shipment Complete: Yes ☒ No ☐ N/A ☐  
 QC6 Inspection ☒ N/A ☐  
 Work Order 101060 N/A ☒

## Discrepancies

Part Number	Description	Quantity Ordered	Quantity Received	Quantity Returned	Quantity Short	Comments

Initials of receiver (if shipment OK) Level 12   

Production/Admin:     
 Date: 10/9/12  
 Received/Costing:     
 Initial:   

Location

**Marmon/Keystone Canada Inc.**

ACIERS SPÉCIALISÉS

290 Chemin du Tremblay  
Boucherville QU CAN J4B 5X9  
TEL. 514/527-9153  
FAX. 450/641-4357

## PACKING SLIP

PAGE... 1  
Order : 1092198  
Date... 09/03/2010

SOLD TO:

DART AEROSPACE LTD  
1270 ABERDEEN STREET

HAWKESBURY ON CAN K6A 1K7

SHIPPED TO:

DART AEROSPACE LTD  
1270 ABERDEEN STREET

HAWKESBURY ON CAN K6A 1K7

SHIP VIA		F.O.B.	SALESPERSON	YOUR ORDER NO.	
TST OVERLAND #222212		BOUCHERVILLE	G. Dulude	12499	
Ordered	Description	Number Pieces	Quantity Shipped	Back Ordered	
	Fax all papers to Linda Lacelle 613-632-1053 Mill tests required with all shipment rev:08/08				
01	24 /FT STAINLESS ROUND BAR SBR .500 CD 303 Cust. part#.: M303R0.500 HT#.....422802 Total...	2 2	✓ 24/FT 2 IN 24/FT 2 IN		
02	80 /FT STAINLESS STEEL SEAMLESS TUBE SMLS TUBE 304L 1/2 X .035 A213 STS .500 .035 304L Tariff Number: 7304. Cust. part#.: M304TR0.500W.035 HT#.....YT0674 Total...	✓ 4 4	80/FT 80/FT		
03	20 /FT STAINLESS STEEL SEAMLESS TUBE SMLS TUBE 316L 1 X .065 A213 STS 1.000 .065 316L Tariff Number: 7304. Cust. part#.: M304TR1.000W.065 HT#.....TGB090222 Total...	✓ 1 1	20/FT 20/FT		
04	600 /FT STAINLESS STEEL TUBE A554 304 ORN. TUBE 3/4" X 3/4' X .065 A554 STO .750 .750 .065 304APC Tariff Number: 7306.40.90.10 Cust. part#.: M304TS0.750W.065 HT#.....856028 HT#.....947757 Total...	11 18 29	220/FT 360/FT 580/FT		

No. of Bdls Crate

0 / 1

Total Weight.....:

395

Customers.: \_\_\_\_\_



A Marmon Distribution Services/Berkshire Hathaway Company

# Acciaierie Valbruna S.p.A.

36100 VICENZA (Italia) - Viale della scienza, 25 z.i.  
Stab.: 39100 BOLZANO (Italia) - Via A. Volta, 4

Clients / Destinatari / Recipienten  
VALBRUNA CANADA LTD  
8724 HOLTGATE CRESCENT  
L5T 5Z1-MILTON, ONT L5T 5Z1-CAN

Produttore: ACCIAIERIE VALBRUNA S.P.A.  
Hersteller / Fabricant

Avviso di Spedizione: D-VI09010751  
Lieferungs-/Packungsauss.

Ordine nr: 904002237 Stock - Canada  
Bestell- / Auftragsnummer

Tipo di Elaborazione: E+AOD  
Erneuerung / Wärmehärtungsprozess / Wärmebehandlung

## CERTIFICATO DI COLLAUDO ABNAHMEPRUEFZEUGNIS INSPECTION CERTIFICATE CERTIFICAT DE RECEPTION EN 10204 (2005) , 3.1

Certificato nr: MEST746116/2009/  
Prüfung/Inspektion

Conferma ordine nr: E109002088  
Werkstatt / Order/Mel.n.

Marchio di Fabbrica:  
Zeichen des Lieferanten  
Trade mark  
Sigs de l'usine productrice

Punzione del Collaudatore:  
Stempel des Werksachverständigen  
Inspector's stamp / Signatur de l'inspecteur

Oggetto Prove: - Annealed Cold Drawn  
Prüfungszustand / Item inspected / Inspection

Specifiche:  
Anforderungen / Requirements / Exigences

VSI 0 303 HS A,CF  
ASME SA320 2007 B8F  
ASTM A370 2009  
QQ-S-754 B/2 303 A  
(2) SEC. II PT. A 2007 EDITION ADD. 2008a  
(1) Chemical analysis only.

AMS 5640 U S30300 A  
ASTM A314 2008 S30300  
ASTM A582 2005 S30300 A

AMS 5640 U TYPE 1 A  
ASTM A320 2008 B8F (1)  
MIL-S-882 B/1 303

Qualità: T-303  
Werkstoff / Grade / Matière

Marcas: MV188ZHS MAXIVAL  
Markenbezeichnung / Brand / Marque

Punzonatura: 303  
Kennzeichnung / Markierung / Marque

Pos. nr. Pos. n. N.º de posi.	Oggetto Description Objet / du produit	Dimensioni - in Abmessungen Dimension	Tolleranza Tol. / Tols. Ausschlag	Lunghezza - in Länge Longueur	Colata Schmelz Fest Coulée	Pezzi Stücke Pièces Pèces	Peso - LB Gewicht Poids	Lotto nr. Lot n. Lot n.
0010	Round	0,5000	484-06B	145 / 145	422802		2,571	818603790

Sono state soddisfatte tutte le condizioni richieste  
Die gestellten Anforderungen sind erfüllt  
The material has been furnished in accordance with the requirements  
Le matériel a été fourni conforme aux exigences

Controllo antimescolanza: OK  
Verwechslungsprüfung: positiv / zufrieden  
Antimixing testing performed: OK  
Controlle antimesclage fait: a.a.

Controllo visivo e dimensionale: soddisfa le esigenze  
Bauartprüfung und Abmessung: ohne Beanstandung  
Visual inspection and dimensional check satisfactory  
Contrôle visuel et dimensionnel satisfaisant

TEST	Prove / Prüfungen Essais / Essais Long. Tens. / Pull. Tens. / Vibr. Char. / Thermal Long. Char. / Hard.	°F	Snervamento Yield Stress Yield strength Rp 0,2 % k.s.i.	Snervamento Tensile Stress Tensile strength Rm k.s.i.	Resistenza Tensile Tensile strength Rm k.s.i.	Allungamento Elongation Elongation E % E 4d %	Strizione Reduction of area RA %	Resilienza Resilience Resilience Resilience	Durezza Hardness Dureté HB
Valori richiesti / Anforderungen / Values required		min max							140 255
A	12,5	68	L	85	110	37	52		253

Mechanical properties according to ASTM A370.  
Grain size for ASTM E112 : 5

### Analisi chimica

Chemische Zusammensetzung / Chemical Analysis / Analyse chimique

Colata / Schmelz / Coulée	min 0,030 max 0,050	0,20 1,00	1,50 2,00	17,00 19,00	0,60 1,00	1,00 2,00	3,00 10,00	0,100 0,40	0,100 0,40	0,32 0,40	0,4000 0,4000						
422802	0,042	0,44	1,81	17,42	0,41	0,63	8,20	0,09	0,027	0,34	0,0044						

Produced without class I-II Ozone depleting substances.

Solution heat treated free from continuous carbide network.

Annealing temperature: 1940°F for 0.5 h/water.

Micro and macro etch test: OK

Material is OFARS Compliant

Melted and manufactured in Italy

No welding or weld repair

Material free from Mercury contamination

We declare that the finished product is checked for radioactive contamination through Portal System when it leaves the production plant.

The Quality Management System is Certified acc. Pressure Equipment Directive [97/23/EC] Annex 1, s. 4.3 by TÜV and Lloyd's

MARMON / KEYSTONE

U.C. REVIEWED	
DATE	INITIAL
08/09	JH

Vicenza, 07/05/09 VCO000 (Mod. MCER)	Il collaudatore di stabilimento / der Werksechverständiger / Work inspector / L'agent d'usine M. Rizzotto	Pagina - 1 di 1
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